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NEWS 4	JAN 27	A new search aid, the Company Name Thesaurus, available in CA/CAplus
NEWS 5	FEB 05	German (DE) application and patent publication number format changes
NEWS 6	MAR 03	MEDLINE and LMEDLINE reloaded
NEWS 7	MAR 03	MEDLINE file segment of TOXCENTER reloaded
NEWS 8	MAR 03	FRANCEPAT now available on STN
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NEWS 11	MAR 29	New monthly current-awareness alert (SDI) frequency in RAPRA
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NEWS 13	APR 26	IFIPAT/IFIUDB/IFICDB: New super search and display field available
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NEWS 15	APR 27	NLDB: New search and display fields available
NEWS 16	May 10	PROUSDDR now available on STN
NEWS 17	May 19	PROUSDDR: One FREE connect hour, per account, in both May and June 2004
NEWS 18	May 12	EXTEND option available in structure searching
NEWS 19	May 12	Polymer links for the POLYLINK command completed in REGISTRY
NEWS 20	May 17	FRFULL now available on STN
NEWS 21	May 27	STN User Update to be held June 7 and June 8 at the SLA 2004 Conference
NEWS 22	May 27	New UPM (Update Code Maximum) field for more efficient patent SDIs in CAplus
NEWS 23	May 27	CAplus super roles and document types searchable in REGISTRY
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FILE 'HOME' ENTERED AT 09:03:24 ON 03 JUN 2004

=> file agricola caplus biosis
COST IN U.S. DOLLARS

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FILE 'AGRICOLA' ENTERED AT 09:03:32 ON 03 JUN 2004

FILE 'CAPLUS' ENTERED AT 09:03:32 ON 03 JUN 2004
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FILE 'BIOSIS' ENTERED AT 09:03:32 ON 03 JUN 2004
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=> s (lemna gibba hurfeish or hurfeish)
L1 7 (LEMNA GIBBA HURFEISH OR HURFEISH)

=> dup rem l1
PROCESSING COMPLETED FOR L1
L2 4 DUP REM L1 (3 DUPLICATES REMOVED)

=> d 1-4 ti

L2 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1
TI Callus induction and regeneration in Spirodela and Lemna

L2 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN
TI Methods for the genetic transformation of Lemnaceae with Agrobacterium tumefaciens

L2 ANSWER 3 OF 4 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN DUPLICATE 2
TI Different ammonium-ion uptake, metabolism and detoxification efficiencies in two Lemnaceae. A 15N-nuclear magnetic resonance study.

L2 ANSWER 4 OF 4 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN
TI Callus induction and regeneration in Spirodela and Lemna.

=> d 1-4 ab

L2 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1
AB The development of tissue culture systems in duckweeds has, to date, been limited to species of the genusLemna. We report here the establishment of an efficient tissue culture cycle (callus induction, callus growth and plant regeneration) forSpirodela oligorrhiza Hegelm SP, Spirodela punctata 8717 and Lemna gibba var. **Hurfeish**. Significant differences were found among the three duckweed species pertaining to carbohydrate and phytohormone requirements for callus induction, callus growth and frond regeneration. In vitro incubation with poorly assimilated carbohydrates such as galactose (S. oligorrhiza SP and L. gibba var. **Hurfeish**) and sorbitol (S. punctata 8717) as sole carbon source yielded high levels

of callus induction on phytohormone-supplemented medium. Sorbitol is required for optimal callus growth ofS.oligorrhiza SP and S. punctata 8717, while sucrose is required for callus growth of L.gibba var. **Hurfeish**. Sucrose either alone (S.oligorrhiza SP, L. gibba var. **Hurfeish**) or in addition to sorbitol (S. punctata 8717) is required for frond regeneration.

L2 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN

AB The invention provides methods for the genetic transformation of Lemnaceae plants wherein Agrobacterium tumefaciens is used as the transforming vector. It was discovered that A. tumefaciens strains EHA105, EHA101, and GVE3103 can specifically target and transform meristematic tissue in Lemnaceae, whereas strains LBA4404 and C58 can target and transform wounded tissue of the plant. The provided methods increase the efficiency of transformation by incubating the Agrobacterium cells with the plant tissue in the presence of a provided booster medium which is capable of increasing the Agrobacterium's virulence. The invention further concerns a method for regeneration of plants from calli, utilizing a provided low sucrose media.

L2 ANSWER 3 OF 4 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN DUPLICATE 2

AB 15N-nuclear magnetic resonance spectroscopy was used to follow nitrogen assimilation and amino-acid production in Wolffia arrhiza (L.) Hork. ex. Wimmer, clone Golan exposed to 4.0 mM 15NH4Cl solutions for 24 h. The main 15N-labelled metabolites were asparagine and glutamine, as well as substantial amounts of unreacted, intracellular NH4+. These results were compared with those of a previous study on Lemna gibba L. clone **Hurfeish** (Monselise et al., 1987, New Phytol. 10, 341-345) with regard to NH4+ uptake, assimilation and detoxification efficiencies. Both species, grown under continuous white light, were capable of preferential uptake of NH4+ in the presence of nitrate. Relative growth rates indicate that both species tolerate increased levels of NH4+ up to 10(-2) mol.1(-1), with L. gibba showing a slightly greater tolerance. No 15N-labelled free NH4+ was detectable in L. gibba, while in W. arrhiza excess NH4+ was found within the cells. This fact indicates that L. gibba is more efficient in detoxification than W. arrhiza excess NH4+ presumably because of inability of W. arrhiza to regenerate the "NH4+ traps", glutamate and aspartate, rapidly enough. This is also evident from the observation that addition of alpha-ketoglutarate to the medium caused nearly complete assimilation of intracellular NH4+ in W. arrhiza. In both plants, addition of alpha-ketoglutarate increased both NH4+ uptake and assimilation. Addition of L-methionine DL-sulfoximine, an inhibitor of glutamine synthetase inhibited NH4+ assimilation, while addition of azaserine, an inhibitor of glutamate synthase, resulted in 15N incorporation into the glutamine-amide position only. These results are consistent with the glutamine synthetase-glutamate synthase pathway being the major route of NH4+ assimilation in the two plants under the conditions used.

L2 ANSWER 4 OF 4 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN

AB The development of tissue culture systems in duckweeds has, to date, been limited to species of the genus Lemna. We report here the establishment of an efficient tissue culture cycle (callus induction, callus growth and plant regeneration) for Spirodela oligorrhiza Hegelm SP, Spirodela punctata 8717 and Lemna gibba var. **Hurfeish**. Significant differences were found among the three duckweed species pertaining to carbohydrate and phytohormone requirements for callus induction, callus growth and frond regeneration. In vitro incubation with poorly assimilated

carbohydrates such as galactose (S. oligorrhiza SP and L. gibba var. **Hurfeish**) and sorbitol (S. punctata 8717) as sole carbon source yielded high levels of callus induction on phytohormone-supplemented medium. Sorbitol is required for optimal callus growth of S. oligorrhiza SP and S. punctata 8717, while sucrose is required for callus growth of L. gibba var. **Hurfeish**. Sucrose either alone (S. oligorrhiza SP, L. gibba var. **Hurfeish**) or in addition to sorbitol (S. punctata 8717) is required for frond regeneration.

=> d ab

L2 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1
AB The development of tissue culture systems in duckweeds has, to date, been limited to species of the genusLemna. We report here the establishment of an efficient tissue culture cycle (callus induction, callus growth and plant regeneration) forSpirodela oligorrhiza Hegelm SP, Spirodela punctata 8717 and Lemna gibba var. **Hurfeish**. Significant differences were found among the three duckweed species pertaining to carbohydrate and phytohormone requirements for callus induction, callus growth and frond regeneration. In vitro incubation with poorly assimilated carbohydrates such as galactose (S. oligorrhiza SP and L. gibba var. **Hurfeish**) and sorbitol (S. punctata 8717) as sole carbon source yielded high levels of callus induction on phytohormone-supplemented medium. Sorbitol is required for optimal callus growth ofS.oligorrhiza SP and S. punctata 8717, while sucrose is required for callus growth of L.gibba var. **Hurfeish**. Sucrose either alone (S.oligorrhiza SP, L. gibba var. **Hurfeish**) or in addition to sorbitol (S. punctata 8717) is required for frond regeneration.

=> d so

L2 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1
SO Plant Cell Reports (2004), 22(7), 457-464
CODEN: PCRPD8; ISSN: 0721-7714

=> d 2 kwic

L2 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN
IT Duckweed (**Lemna gibba**)
(**Hurfeish**; methods for the genetic transformation of Lemnaceae with Agrobacterium tumefaciens)

=> d 2 pi

L2 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9919497	A1	19990422	WO 1997-IL328	19971010
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	AU 9745703	A1	19990503	AU 1997-45703	19971010
	CA 2312008	AA	19990422	CA 1998-2312008	19981008
	WO 9919498	A1	19990422	WO 1998-IL487	19981008
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE,				

DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW,
MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR,
TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES,
FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI,
CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

AU 9894572	A1	19990503	AU 1998-94572	19981008
AU 759570	B2	20030417		
EP 1021552	A1	20000726	EP 1998-947760	19981008

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO

=> dd 3 so
DD IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).

=> d 3 so

L2 ANSWER 3 OF 4 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN DUPLICATE 2
SO Planta, 1993. Vol. 189, No. 2. p. 167-173
Publisher: Berlin ; New York : Springer-Verlag, 1925-
CODEN: PLANAB; ISSN: 0032-0935

=> s (spirodela oligorrhiza or oligorrhiza)
L3 478 (SPIRODELA OLIGORRHIZA OR OLIGORRHIZA)

=> d 50 so

L3 ANSWER 50 OF 478 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN
SO Photochem Photobiol, Feb 1976 Vol. 27, No. 2, pp. 161-165. Ref.

=> dup rem l3
PROCESSING COMPLETED FOR L3
L4 339 DUP REM L3 (139 DUPLICATES REMOVED)

=> d11-20 ti
D11-20 IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).

=> d 11-20 ti

L4 ANSWER 11 OF 339 CAPLUS COPYRIGHT 2004 ACS on STN
TI Does Spirodela punctata break P-C bonds?

L4 ANSWER 12 OF 339 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI The effect of toxic cyanobacteria (blue-green algae) on water plants and animal cells.

L4 ANSWER 13 OF 339 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States

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(2004) on STN DUPLICATE 4
TI The influence of microcystin-LR and hepatotoxic cyanobacterial extract on the water plant **Spirodela oligorrhiza**.

L4 ANSWER 14 OF 339 CAPLUS COPYRIGHT 2004 ACS on STN
TI Phenol-oxidizing peroxidases contribute to the protection of plants from ultraviolet radiation stress

L4 ANSWER 15 OF 339 CAPLUS COPYRIGHT 2004 ACS on STN
TI The membrane-disrupting activity of α-aminoalkanephosphonic acids and their derivatives

L4 ANSWER 16 OF 339 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 5
TI Cloning and characterization of cDNA of the GPI-anchored purple acid phosphatase and its root tissue distribution in **Spirodela oligorrhiza**

L4 ANSWER 17 OF 339 CAPLUS COPYRIGHT 2004 ACS on STN
TI Synthesis of some new cyclic aminophosphonates and their physiological activities

L4 ANSWER 18 OF 339 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI Allelopathic reaction metabolites from Cyanobacteria against water plant (**Spirodela oligorrhiza**).

L4 ANSWER 19 OF 339 CAPLUS COPYRIGHT 2004 ACS on STN
TI Nutrient recovery from swine lagoon water by Spirodela punctata

L4 ANSWER 20 OF 339 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 6
TI Toxicity and model membrane modifying properties of organolead compounds

=> d 16 so

L4 ANSWER 16 OF 339 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 5
SO Physiologia Plantarum (2001), 113(2), 241-248
CODEN: PHPLAI; ISSN: 0031-9317

=> d 41-50 ti

L4 ANSWER 41 OF 339 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 13
TI 15N NMR spectroscopic study of ammonium ion assimilation by **Spirodela oligorrhiza** (Lemnaceae) as affected by light and carbon supply in green and etiolated plants

L4 ANSWER 42 OF 339 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI Control of growth of aquatic plants by ABA and growth retardants, and chilling stress in connection with the increase of RNase and phosphatase activity.

L4 ANSWER 43 OF 339 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI Ammonium ion metabolism in etiolated **Spirodela oligorrhiza** (Lemnaceae) is affected by red/far-red light pulses: A 15N NMR study.

L4 ANSWER 44 OF 339 CAPLUS COPYRIGHT 2004 ACS on STN
TI Growth-retarding effect of 2-aminoindan-2-phosphonic acid on Spirodela punctata

L4 ANSWER 45 OF 339 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI Distribution and accumulation of phosphatase and plasma membrane proton-ATPase inducibly synthesized in **Spirodela**

oligorrhiza grown under phosphate-deficient conditions.

L4 ANSWER 46 OF 339 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 14
TI Purification and characterization of phosphatase inducibly synthesized in **Spirodela oligorrhiza** grown under phosphate-deficient conditions

L4 ANSWER 47 OF 339 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI Evidence for light-dependent and light-independent protein dephosphorylation in chloroplasts.

L4 ANSWER 48 OF 339 CAPLUS COPYRIGHT 2004 ACS on STN
TI Glycosylphosphatidylinositol-anchored proteins in plants

L4 ANSWER 49 OF 339 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI Synergistic degradation of photosystem II reaction center proteins under mixed PAR and UV-B radiation.

L4 ANSWER 50 OF 339 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN DUPLICATE 15
TI Assembly of photosystem I and II during the early phases of light-induced development of chloroplasts from proplastids in **Spirodela oligorrhiza**.

=> d 50 so

L4 ANSWER 50 OF 339 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN DUPLICATE 15
SO Photochemistry and photobiology, June 1996. Vol. 63, No. 6. p. 837-845
Publisher: Augusta, GA : American Society for Photobiology.
CODEN: PHCBAP; ISSN: 0031-8655

=> d 50 ab

L4 ANSWER 50 OF 339 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN DUPLICATE 15
AB The aquatic higher plant **Spirodela oligorrhiza**, which contains proplastids when grown in the dark, was used to study light-dependent chloroplast development. Low-temperature (77 K) and room temperature fluorescence were utilized in situ on whole plants to examine plastic development. The dark-grown plants contain two 77 K fluorescence peaks, at 633 nm (F633) and at 657 nm (F657), with F633 dominating. The F657 species represents protochlorophyllide that is bound to protochlorophyllide oxidoreductase. It was rapidly phototransformed to chlorophyllide (within 5 s) via a monomolecular reaction. Free protochlorophyllide (F633) was converted to chlorophyllide during a 3 h exposure to light. Photosystem (PS) assembly in Spirodela could be detected 2 h after the plants were first exposed to light, with the PSII reaction center (77 K fluorescence at 684 nm) appearing slightly before the PSI reaction center (77 K fluorescence at 725 nm). After the first reaction centers were formed the antenna complexes were added; the light-harvesting complex (LHC) I of PSI appeared after 8 h, and 47 kDa chlorophyll protein of PSII appeared between 12 h and 24 h. After 30 h of exposure to light, the plants acquired the ability to perform a light state transition, marking the appearance of functional LHCII complexes in the developing chloroplast. Finally, it was found that photosynthetic

activity, as measured by room temperature chlorophyll fluorescence, accelerated concomitantly with detection of the antenna complexes. Therefore, although reaction centers are detected very early during the proplastid to chloroplast conversion, they may have little activity or be unstable until the antennae are present.

=> d 51-55 ti

L4 ANSWER 51 OF 339 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 16
TI Accelerated degradation of the D2 protein of photosystem II under ultraviolet radiation

L4 ANSWER 52 OF 339 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN DUPLICATE 17
TI Effect of supplementary UVB radiation on chlorophyll synthesis and accumulation of photosystems during chloroplast development in **Spirodela oligorrhiza**.

L4 ANSWER 53 OF 339 CAPLUS COPYRIGHT 2004 ACS on STN
TI Low levels of intraspecific genetic variation at a rapidly evolving chloroplast DNA locus in North American duckweeds (Lemnaceae)

L4 ANSWER 54 OF 339 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 18
TI Ultraviolet-B effects on **Spirodela oligorrhiza**: induction of different protection mechanisms

L4 ANSWER 55 OF 339 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN DUPLICATE 19
TI Evidence for a glycosylinositolphospholipid-anchored alkaline phosphatase in the aquatic plant **Spirodela oligorrhiza**.

=> d 54 so

L4 ANSWER 54 OF 339 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 18
SO Plant Science (Shannon, Ireland) (1996), 115(2), 217-23
CODEN: PLSCE4; ISSN: 0168-9452

=> d 54 ab

L4 ANSWER 54 OF 339 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 18
AB UV-B tolerance in plants has mostly been correlated with the presence of screening pigments (e.g. flavonoids) or other redns. in leaf transmittance. The rapid turnover of the photosystem II reaction center protein D1 as a sensitive in vivo probe for UV-B damage was examined The aquatic monocot, **Spirodela oligorrhiza**, protects itself from UV-B irradiance using at least three different mechanisms. In one case, protection is correlated to the presence of UV-B screening pigments; in the second, an elevated oxygen-radical detoxifying system parallels UV-B tolerance; in a third, UV-B tolerance is related to a mechanism involving neither screening pigments nor increased radical scavenging capacity. This demonstrates that, in vivo, a plant can complement its UV-screening and attenuation strategies by other tactics as well.